

REMARKS/ARGUMENTS

All 30 of the claims originally presented in the application have been rejected on the grounds more fully set forth herein below. Applicant resubmits claims 1-30 and new claim 31 for favorable consideration in view of the amendments thereto and the following remarks.

The specification has been amended to add the numeral designations 50 and 52 towards the bottom of page 9 where they were inadvertently omitted.

Claim 27 has been amended to eliminate the basis of the objection thereto.

Applicant submits that the claims as originally presented include limitations that patentably distinguish Applicant's invention over the prior art. As set out above and more fully explained below, Applicant has made several amendments to the claims, but only for the purpose of placing them in better form and to eliminate possible ambiguities. In doing so, Applicant has not introduced any new matter.

Claims 1-4, 6-11, 13-14 and 16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Allen (US 6,041,566).

Allen '566 is directed to a straw bale wall structure composed of bales of straw and a variety of metal components including a series of horizontal trusses and vertical rods 20. The trusses 17 shown in Fig. 4 are disposed horizontally between rows of bales 14, as described in Col. 4, lines 27-29, ("... trusses 17 act as horizontal beams to accommodate wind and earthquake loads and the rod column bracing requirements"). The bales 14 are impaled on the

rods 20 (Col. 14, line 20). Thus, Allen '566 teaches a system wherein the vertical loads are supported by column rods 20 which pass through and are therefore internal to the bales 14, while the trusses 17 are disposed horizontally between each of the rows of bales 14.

Because the columns (rods) 20 of Allen '566 pass through the bales and are attached to other metal components which themselves pierce the surface of the bales so as to create a physical connection therebetween, the bales 14 of Allen '566 become part of the load-bearing structural components.

By contrast, Applicant's structure is of a much more elegant design in which the bales that form the core of the wall are not load-bearing components, but function only to provide insulation and support for the external structure during construction. Thus, none of the metal components of Applicant's system penetrate the surface of the bales or otherwise tie them into the load-bearing structure, but rather only surround or abut the bales which are constrained by, but not attached to, any of the metal components.

Those skilled in the art will immediately recognize that the metal components of Applicant's system, when erected as described, create an inner wall and a spaced-apart exterior wall, which, together with the internal structures that connect them, form a stable truss.

It will be immediately recognized by those skilled in the art that Applicant's structure is not only superior structurally, but is more easily constructed; not requiring all of the various connectors and threaded components required in Allen '566.

These distinguishing features of Applicant's invention are set forth in **Claim 1** of the current application.

Claim 1 (as currently amended) calls for :

“a plurality of vertically oriented spaced-apart bracing ladders attached to the foundation wall and rising vertically therefrom wherein some of the bales abut a said ladder and some of the bales are surrounded by a said ladder. (Underlining added for emphasis.)

Claim 1 as amended emphasizes that which was stated in the original claim, namely, that the bracing ladders are oriented vertically.

The only vertical components taught by Allen '566 are rods 20, which cannot reasonably be characterized as “ladders.” Furthermore, rods 20 neither abut nor surround the bales, but rather pierce through the mid-section of the bales.

A rejection under 35 U.S.C. 102(b) requires that each and every element of the claimed invention be found in the cited reference. To Anticipate a Claim, The Reference Must Teach Wvery Element of The Claim. MPEP 2131. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir, 1989) Applicant has, immediately above, demonstrated that the vertical bracing ladders of Applicant's invention are not taught by Allen '566. The only components in Allen '566 that could be reasonably characterized as ladders are trusses 17, which Allen '566 disposes horizontally between rows of bales and, thus, cannot be characterized as being “vertically oriented” or “rising vertically” from the foundation.

Applicant has presented new claim 31 which is claim 1 written in a manner that further distinguishes over the reference of Allen '566. Claim 31 includes the limitation that the bracing ladders are disposed externally of all of said bales, thus further distinguishing over Allen '556 where vertical rods 20 are all internal of the bales.

Claim 2 which adds the limitation that the ladders have bale windows large enough to surround a straw bale clearly distinguishes over the rods 20 of Allen '566, which are the only vertical members and, which being straight rods, are incapable of "surrounding" the bales.

Similarly, **Claim 3**, which adds a limitation that the ladders have bale abutments between ladder windows again clearly distinguishes over the vertical rods 20 of Allen '566.

Claim 4 further describes the ladders and their configuration, none of which are found in Allen '566.

Claim 6 depends from claim 1 and is thus allowable, along with claim 1.

Claim 7 adds to claim 1 corner ladders not found in Allen '566.

In an attempt to find bale abutments in Allen '566, the Examiner calls out element 20A. But Allen '566 identifies 20a as rod segments, not abutments.

The Examiner cites windows 14 as ladder windows corresponding to those set forth in the claims, when, in reality, 14 is the space in the horizontal truss 17 and does not form a window that can surround a bale or that a bale can pass through. In any event, Applicant's "windows" are specified as being in

the vertical ladders not found in Allen '566.

Claim 8 further describes corner ladders as mid-wall ladders at right angles to each other, which are nowhere described or shown in Allen '566.

Claim 9, in essence, describes the ladders of claim 1 as trusses (two spaced-apart rails connected by struts). The ladders of claim 1 are clearly described as being vertical members and the citation of horizontal trusses 17 of Allen '566 actually helps in distinguishing Applicant's invention from Allen '566, not in anticipating it.

Claim 10, which depends from claim 1, which is allowable, is also allowable and further limits the spacing between rails as large enough to surround a bale.

Claim 11 has been amended to locate the X-shaped spars remotely from the vertical bracing truss ladders. Thus, the citation of X-shaped spars 24 of horizontal ladders 17 of Allen '566 fails to meet the limitation. At lines 1-2 of Col. 5, Allen '566 states that struts 22 and web ties 24 form the web of truss 17. Thus, these members do not teach a spar independent from the truss, as called for in claim 11.

Claim 13 is allowable, along with claim 1 from which it depends. Claim 13 stiffening ladders are in addition to the vertical bracing ladders not found in the reference.

Claim 14 highlights the distinction between Applicant's invention and the cited reference in that the intersection of Applicant's vertical bracing ladder and horizontal stiffening ladder is accounted for. Allen '566 has only

horizontal ladders, no vertical ladders (trusses).

Claim 16 is allowable, along with Claim 1 from which it depends.

Furthermore, it adds the limitation of X-shaped spars that straddle bales in adjacent rows. No such arrangement is found in Allen '566 and none is pointed out in the Office Action in rejecting claim 16. The spars provide the important function of tying together the interior wall structure and the exterior wall structure, forming a very structurally stable truss.

Claims 15 stands rejected under 35 U.S.C. 102(b) as being anticipated by Allen (US 5,749,199).

The numeral 26 that the Examiner has referred to as mid-wall bracing ladders is specified in Allen '199 as "cross ties." See Col. 5, line 65. Applicant assumes truss 17 was intended.

The rejection must fail because, as pointed out above, Allen, in both '566 and '199, teaches only horizontal trusses (ladders) 17. See Col. 5, line 35 ("Trusses 17 act as horizontal beams . . ."). Claim 15 calls for bracing ladders that are vertically oriented and extend vertically. Furthermore, claim 15 calls for bales extending through the ladders. The only vertical members in Allen '199 are rods 20 that extend through the bales; the bales do not extend through the rods. The bales do not extend through the horizontal trusses 17, either.

Thus, Allen '199 must fail as a 102(b) reference and claim 15 is allowable thereover.

Claim 5 stands rejected under 35 U.S.C. 103(a) as being

unpatentable over Allen ('566).

Claim 5 is allowable for all of the reasons set forth above for the allowability of claims 1-4 from which claim 5 depends. The rebar limitation is in addition to the limitations in the claims from which claim 5 depends which are not found in Allen '566 and which would not be obvious.

Claims 12, 17 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Allen ('566) in view of Allen '199.

The Examiner appears to have made the mistake of believing that the truss 17 in Allen '199 is a vertically oriented member, when the description makes it clear that it is a horizontally oriented member. What the Examiner has characterized as "connecting rods (28) extending vertically from anchor dowel to the top of the bale stack" is not shown in Allen '199. To the contrary, Allen '199 uses numeral designation 28 to identify cross straps in horizontal truss 17 (see Figs. 7 and 10). Fig. 5 indicates at 7-7 that Fig. 7 is a plan view. Straps 28 do not extend vertically at all.

Furthermore, the claims include limitations not disclosed in either Allen '566 or Allen '199, as more fully pointed out above in connection with the discussion of the claims from which claims 12, 17 and 18 depend. There is no disclosure in Allen '199 of X-shaped spars disposed as specified and connected into the system as set forth.

Claims 12, 17 and 18 are allowable over the cited art.

Claims 19-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Allen ('566).

The rejection of claims 19-30 suffers from the same infirmities as pointed out above.

- The numeral designation “26” does not refer to “bracing ladders,” as asserted, but rather to horizontal interfaces between bales 14 (see Col. 4, line 35). The only vertical members are rods 20 (see Col. 4, lines 4-5) and they are not trusses or ladders. The only ladders are horizontal trusses 17 which are not disposed vertically and do not have openings through which a bale can extend.

- Nothing in Allen '566 teaches a truss (ladder) having openings through which bales can extend. The Office Action fails to point out any such opening (window).

- Numeral designation 20a is to a rod segment (see Col. 4, line 17). There is no showing of bales abutting vertically oriented mid-wall bracing ladders as there are no such ladders in Allen '566. The rod segments 20a do not abut the bales, but rather pass through them.

- Once again, the fact that the claim calls for vertically oriented ladders is ignored in making the rejection and only a horizontal ladder is cited.

- The corner ladders specified in the claims are vertically oriented. Allen '566 teaches only horizontally oriented ladders (trusses).

- Numeral designations 34a and 34b cited by the Examiner as “spars” are actually “nuts” (see Col. 4, lines 36 and 38) that connect segments that make up rod 20. The hourglass or X-shape spars provide important functionality. They connect the interior and exterior wall structures and

thereby create a truss with those wall structures so as to provide a very stable structure.

Conclusion


The cited references of Allen '566 and Allen '199 fail to disclose either the novel components of Applicant's claimed invention or the novel manner in which these components are arranged relative to a stack of straw bales to form a stable wall structure.

Applicant claims a structure have vertically oriented trusses (ladders) rising from the foundation, where the cited references teach only horizontal trusses spaced apart from the foundation by one or more bales. Applicant combines X-shaped spar members with the vertical ladders to connect the wall structure into a stable truss.

For all of the reasons set out above, Applicant submits that the claims are presently in condition for allowance.

Respectfully submitted,

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